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UNIVERSITY OF CALIFORNIA
TOBACCO-RELATED DISEASE RESEARCH PROGRAM
PROGRESS REPORT

ABSTRACT OF RESEARCH RESULTS

AWARD # RT 500 AWARD PERIOD 7/1/90 - 6/30/92

PRINCIPAL INVESTIGATOR David Rempel, M.D.

INSTITUTION University of California, San Francisco

TITLE OF PROJECT The Relationship of Tobacco Exposure to Semen Biomarkers

Please summarize, in language understandable by an educated layman, the objective of this project and the significant findings resulting from the work. Limit the abstract to a space 6" by 5.5".

The objectives of this study are to evaluate the relationship between smoke exposure and semen biomarkers and pregnancy outcome. Some studies have suggested that tobacco exposure is a toxin to sperm. However, these studies have been flawed in selection, bias and use of non-standardized tests for the measurement of sperm parameters. In this study approximately 220 "normal" couples who are at risk for pregnancy are being recruited from Kaiser, Santa Clara. The women partners are collecting daily urine samples to be analyzed for urine hCG and the male partners are providing two semen samples to be analyzed for sperm motion and sperm morphometry ("biomarkers"). This grant is funding the analysis of saliva and semen from the male partners to determine levels of cotinine and nicotine.

During the first year of the study, 185 men have been recruited as full participants to the study and 65 men have refused to participate. All of these men completed a long questionnaire and also provided two semen samples and one saliva sample. The semen and saliva samples have been frozen and are in storage at San Francisco General Hospital.

During the first two months of the next year we will complete recruitment of the male subjects (220). After all saliva and semen samples have been collected, they will be analyzed by GC-MS for cotinine and nicotine. The laboratory data and the data from the questionnaires will be entered into a computer data base and the relationship between the smoke exposure based on semen biomarkers and the questionnaires will be analyzed and compared to the semen biomarkers. By evaluating the relationship of semen biomarkers to objective measures of tobacco smoke and controlling for confounders, some insight will be gained into the effect of active and passive tobacco smoke exposure on the male reproductive function.

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OTHER SUPPORT

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PRINCIPAL INVESTIGATOR David Rempel, M.D.

TITLE OF PROJECT The Relationship of Tobacco Exposure to Semen Biomarkers

1. [REDACTED]
\$25,000 per year
PI: David Rempel, M.D.
5% of effort

A two year grant being conducted with Andy Wyrobek, Ph.D. at Lawrence Livermore National Lab to develop an automated image analysis system for identifying sperm morphometry characteristics. This grant is linked with the prospective study following 500 couples who are at risk for pregnancy.

2. [REDACTED]
\$96,080 per year
PI: David Rempel, M.D.
5% of effort

A two year grant to study wrist and shoulder joint positions, and other ergonomic factors of subjects using different keyboard layouts.

3. [REDACTED]
\$13,345 per year
PI: David Rempel, M.D.
5% of effort

A study to evaluate intracarpal pressure in normal subjects and subjects with carpal tunnel syndrome while they perform various hand tasks to determine the relationship between hand motions and intracarpal pressure. In addition, subjects will use a wrist support for part of the experiment to determine the effect of the wrist support on intracarpal pressure while subjects perform repetitive tasks.

PENDING SUPPORT: An Educational Resources Training Grant (NIOSH) to support graduate students in ergonomics is pending.

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CHANGES IN KEY PERSONNEL

AWARD # RT 500 AWARD PERIOD 7/1/90 - 6/30/92

PRINCIPAL INVESTIGATOR David Rempel, M.D.

TITLE OF PROJECT The Relationship of Tobacco Exposure to Semen Biomarkers

1. Person named in the grant application:

Name	Title	% Time
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Changed to:

Name	Title	% Time
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2. Person named in the grant application:

Name	Title	% Time
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Changed to:

Name	Title	% Time
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3. Person named in the grant application:

Name	Title	% Time
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Changed to:

Name	Title	% Time
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Use additional pages if necessary

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PUBLICATIONS

AWARD # RT 500 AWARD PERIOD 7/1/90 - 6/30/92

PRINCIPAL INVESTIGATOR David Rempel, M.D.

TITLE OF PROJECT The Relationship of Tobacco Exposure to Semen Biomarkers

List publications which acknowledge support from this program; listings should include the author(s), title, journal or book name, year of publication, volume, and inclusive page numbers. Attach reprints.

There have been no publications supported by this program yet.

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